

Amendments to the Claims:

1. (currently amended): A method of generating a content signature for a signal comprising: ~~the steps of:~~

dividing the signal into at least one set;

transforming the set into a frequency-based domain;

determining features of the transformed set; and

grouping the features to comprise a content signature of the set.

2. (original): A method according to claim 1, wherein the features comprise perceptually relevant features.

3. (original): A method according to claim 1, wherein the features comprise frequency magnitude peaks.

4. (original): A method according to claim 1, further comprising the step of storing the content signature.

5. (currently amended): A method according to claim 1, wherein the ~~step of~~ grouping comprises at least one of ~~the steps of~~ hashing the features, mathematically representing the features, and mapping the features.

6. (currently amended): A method according to claim 1, further comprising the ~~step of~~ storing the content signature in a database.

7. (currently amended): A method according to claim 1, further comprising: ~~the steps of:~~

dividing the signal into a plurality of sets;

transforming each of the plurality of sets into a frequency-based domain;

determining features for each of the plurality of transformed sets;

grouping the features per set to comprise a respective signature for each of the sets; and

linking the respective signatures.

8. (currently amended): A method of resolving a stream of content signatures, the content signatures corresponding to sets of a content item, said method comprising: ~~the steps of:~~

applying Viterbi decoding according to the stream of content signatures;

identifying a content item corresponding to the stream; and

accessing information related to the content item.

9. (currently amended): A method of generating a content signature from compressed data, the compressed data having m bits, said method comprising: ~~the steps of:~~

extracting n of the most significant of the m bits, where $m > n$, and n and m are integers; and

storing the n bits as the content signature.

10. (currently amended): A method of generating a content signature from a content item comprising: ~~the steps:~~

in a compressed domain, identifying scaling features of the data; and
grouping the scaling features to form a content signature.

11. (currently amended): A method of generating a content signature for a signal comprising: ~~the steps of:~~

dividing the signal into at least one set; and
identifying perceptual edges of the set, the edges comprising the signature of the set.

12. (currently amended): A method of generating a content signature for a signal comprising: ~~the steps of:~~

applying trellis coded quantization to a data set to find a minimum relationship between the data set; and
storing the minimum relationship as a signature of the data set.

13. (original): A method according to claim 12, wherein trellis coded quantization can be modeled as a trellis diagram representing the data, and the minimum relationship is the shortest distance through the trellis diagram.

14. (currently amended): A method of deriving a content signature for a content item, the content item comprising a digital watermark embedded therein, the digital watermark comprising at least an orientation component, said method comprising: ~~the steps of:~~

decoding the embedded digital watermark from the content item to retrieve the orientation component;

reorienting the content item based on the orientation component; and

deriving a content signature for the reoriented content item.

15. (previously presented): The method of claim 14, wherein said reorienting comprises at least one of rotating the content item, scaling the content item and translating the content item.

16. (original): The method of claim 15, wherein the content item comprises one of audio, video and image data.

17. (currently amended): A method of handling a content item, the content item comprising a digital watermark embedded therein, the digital watermark comprising at least a plural-bit message, said method comprising: ~~the steps of:~~

decoding the digital watermark to obtain the message; and

deriving a content signature for the content item.

18. (original): The method of claim 17, wherein the message comprises a content distributor identifier to be used to identify the distributor of the content item.

19. (original): The method of claim 18, wherein the content signature is used to identify the content item.

20. (currently amended): The method of claim 19, further comprising ~~the steps~~ of selecting a database for interrogation based on the distributor identifier, and identifying information associated with the content item and stored in the selected database with the content signature.

21. (original): The method of claim 17, wherein the message comprises a content signature.

22. (currently amended): The method of claim 21, further comprising ~~the step of~~ comparing the message content signature with derived content signature.

23. (currently amended): The method of claim 22, further comprising ~~the step of~~ deeming the content item authentic when the message content signature and the derived content signature coincide.

24. (original): The method of claim 17, wherein the message comprises a trigger to indicate that said deriving step should be performed.

25. (currently amended): A method to derive a content signature for a video frame or image comprising: ~~the steps of:~~
identifying an area in the video frame or image;
determining a center of mass of the video frame or image; and
providing a content signature for the video frame or image based at least on the center of mass.

26. (currently amended): The method of claim 25, wherein ~~[[in]]~~ the center of mass is determined by identifying edges of the area and then determining a center based on the identified edges.

27. (currently amended): The method of claim 25, wherein the area comprises a plurality of pixels, and wherein ~~[[in]]~~ the center of mass is determined by multiplying each pixel's luminescence with its location from a predetermined reference point in the area, summing all pixels, and dividing by the average luminescence of the pixels.

28. (original): The method claim 27, wherein the area comprises a plurality of color planes, and a center of mass is calculated for each color plane.

29. (currently amended): The method of claim 25, further comprising ~~comprise~~ ~~the step~~ detecting edges in the area before said ~~step of~~ determining a center of mass.

30. (original): The method of claim 25, wherein the area comprises an object.
31. (original): The method of claim 25, wherein the area comprises a video frame.
32. (currently amended): A method of generating a fingerprint related to a content item comprising: ~~the steps of:~~
pseudorandomly selecting a segment of the content item; and
fingerprinting the selected segment of content item.
33. (original): The method of claim 32, wherein the segment is pseudorandomly selected based on a known key.
34. (original): The method of claim 33, wherein the known key comprises a user identifier.
35. (original): The method of claim 32, wherein the fingerprinting comprises at least one of mapping perceptually relevant features, a frequency domain analysis, hashing and a lossy transformation.

36. (currently amended): A method of calculating a content signature from a content item, the content item comprising at least one cue indicator signal, said method comprising: ~~the steps of:~~

sensing the cue indicator signal from the content item; and upon sensing the cue indicator, signal,

determining a content signature for at least a portion of the content item.

37. (currently amended): The method of claim 36, wherein the content item is video and the cue indicator signal comprises a fade to black indicator.

38. (currently amended): The method of claim 36, wherein the cue indicator signal comprises a pattern of frequency components for the content item.

39. (currently amended): The method of claim 36, wherein the content item is video and the cue indicator signal comprises a contrast of a center of a video frame.

40. (currently amended): The method of claim 36, further comprising ~~the step of~~ determining timing intervals within the content item based on the cue indicator. signal.

41. (currently amended): A data management method comprising: ~~the step of:~~
deriving a content signature from a content item; and
providing the content signature to a database constructed as content addressable memory (CAM); and

obtaining data from the database associated with the content signature.

42. (original): The method of claim 42, wherein the data comprises at least one of a URL, IP address and metadata.

43. (original): The method of claim 41, wherein the database includes groups of sub-fingerprints, and the content signature is used to interrogate the database to identify a related group of sub-fingerprints.

44. (currently amended): A method of returning a content item to a base state prior to deriving a signature of the content item, the content item comprising a digital watermark embedded therein, the digital watermark comprising at least an orientation component, said method comprising: ~~the steps of:~~

reading the digital watermark embedded in the content item to obtain the orientation component;

reorienting the content item based at least in part on the orientation component, wherein reorienting the content item returns the content item to the base state; and

determining a signature of the content item from the reoriented content item.

45. (previously presented): The method of claim 44, further comprising:
comparing the signature to a predetermined signature; and
determining at least one of authenticity of the content item and identity of the content items through said comparing step.

46. (previously presented): The method of claim 44, wherein said reorienting comprises at least one of scaling, rotating and translating the content item.

47. (previously presented): A method to calculate a fingerprint of a media signal, wherein the media signal comprises a steganographic signal including an orientation component, said method comprising:

- reading the media signal to obtain the orientation component;
- determining at least one of a type of distortion and an amount of distortion based at least on the obtained orientation component;
- adjusting the media signal to compensate for the determined distortion; and
- calculating a fingerprint based on the adjusted media signal.

48. (new): A method of linking an image to metadata contained in a network resource, said method comprising:

- receiving data corresponding to an image;
- changing a geometric orientation of the data;
- determining attributes of the changed data;
- interrogating a network resource with at least a sub-set of the attributes to identify metadata associated with the image; and
- providing metadata associated with the image.

49. (new): The method of claim 48, wherein the metadata comprises at least one of a URL, image, audio and video.

50. (new): The method of claim 48, wherein changing a geometric orientation of the data comprises at least one of scaling, rotating and translating.

51. (new): A method of linking an image to metadata contained in a network resource, said method comprising:

receiving image data;

changing a geometric orientation of the image data;

interrogating a network resource through use of inherent attributes of the changed image data to identify metadata associated with the image data; and
providing identified metadata.

52. (new): The method of claim 51, wherein changing a geometric orientation of the data comprises at least one of scaling, rotating and translating.

53. (new): The method of claim 51, wherein the identified metadata comprises at least one of a URL, image, audio and video.

54. (new): A method of linking an image to metadata contained in a network resource comprising:

receiving image data from a wireless device;

comparing inherent characteristics of the image data to a plurality of image records, wherein each image records includes at least image characteristics;

upon a successful match with an image record, identifying metadata associated with at least one of the image record and image data; and

providing identified metadata to the wireless device.

55. (new): The method of claim 54, wherein the identified metadata comprises at least one of a URL, image, audio and video.

56. (new): The method of claim 54, wherein prior to said comparing, said method comprises changing a geometric orientation of the image data.

57. (new): The method of claim 54, wherein the wireless device comprises a wireless telephone.